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Procedure for Data Entry in the Protozoan Section

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1 Scope and Application

- 1.1 In the Protozoan Section, raw data is manually entered into the LIMS by laboratory staff that has been properly trained in LIMS operation and has been given specific LIMS privileges. The LIMS in operation at the EPD Laboratory is Labworks Desktop. All data stored in the LIMS is maintained in an Oracle database.

2 Definitions

- 2.1 Refer to Section 3 and Section 4 of the Georgia EPD Laboratory Quality Assurance Manual for Quality Control Definitions.

3 Quality Control

- 3.1 Refer to Chapter 13- LIMS Operation

4 Procedure

- 4.1 Data entry begins with the laboratory staff member logging onto the computer. For security purposes, he/she must use his/her initials and unique password.
- 4.2 Double click on the Labworks Icon
- 4.3 The Labworks user must enter his/her initials and unique password. Select Chem as the database for login.
- 4.4 Cross Reference Search: Most applications begin with cross reference searches in order to retrieve the desired samples for batching and /or results entry.
- 4.5 Click on the Cross Reference Icon **OR** Click on the Search button from the Toolbar and select Cross Reference Search from the pull down menu.
- 4.6 Under available search routines, select PRODATE.

- 4.7 Click OK
- 4.8 A Prompt box will pop up. Enter the start and end dates for the desired samples.
- 4.9 Click OK.
- 4.10 Click on Search Results. View to verify information.
- 4.11 Click close, then Exit.
- 4.12 Batching Instructions
- 4.13 Perform a cross reference search making sure all samples for the week are accounted for. (Note: Each individual batch can contain no more than 20 samples.)
- 4.14 Select Batch by Analysis and the pick QA Tests Window appears.
- 4.15 Under options select unbatched samples with selected analyses pending.
- 4.16 In the box enter \$1623 for Crypto and Giardia Samples.
- 4.17 Click OK. The QA/QC Batch Creation Box appears.
- 4.18 Review the number of samples listed to ensure that those are the desired samples. The number of samples will be the same number as the number of sample bench sheets for that week.
- 4.19 Click OK. The Batch Selection Window will appear.
- 4.20 If all samples are to be batched, click OK and the Batch Size Specification Window Appears. Proceed to 4.24.
- 4.21 If all samples are not to be batched, click on the checkmark beside "Batch" and all checkmarks will be removed. Click on a check mark beside the desired samples. Then click OK and the Batch Specification window appears.
NOTE: The batch size specification should equal the number of samples batched.
- 4.22 If the numbers are correct, click OK.
- 4.23 From the Batch QA Sample Specification window, assign a QC group to the sample number. Note: Assign QC group to first Matrix Spike Sample or the first valid sample if there is no matrix spike in the group.
- 4.24 Click on the sample number and it will appear in the QA sample ID box.
- 4.25 Choose #Q\$1623 for regular samples and PT.

- 4.26 If the QA is being attached to a sample with no matrix spike remove the additional QA Tests at this time by left clicking on the number in the QA tests added box. This will bring up the Analyses box from which matrix spike associated tests can be removed. **NOTE: Always remove \$LD1623 and \$LP1623 from test codes.**
- 4.27 Matrix Spike Tests to remove are \$A_1623, \$S_1623, \$R_1623, 1623MAVS, 1623MASV, 1623MAPV, 1623MAIR, 1623MAVT, 1623MAFV, and 1623MANF.
- 4.28 Click OK to accept changes.
- 4.29 Click OK in the Batch Specification box.
- 4.30 A small box will appear saying, "1 new QA/QC Batch has been successfully created".
- 4.31 Click OK within that box.
- 4.32 Close the QA/QC Batch Creation Box.
- 4.33 Click on Print from the QA/QC Batching box and the worksheet and format specification window appears.
- 4.34 Under Worksheet Selection Option, select "Newest QA/QC batch". Alternative: Select from the on line QA/QC batches and select analysis code \$1623. Click OK then select the first batch listed or whichever is desired. Click OK.
- 4.35 Under Available Worksheets, highlight CRYPTO for 1623 samples.
- 4.36 Click OK.
- 4.37 After printing, exit.
- 4.38 Results Entry-LT2 Samples
- 4.39 Perform a cross reference search and exit.
- 4.40 Click on the Results Icon OR go to Results from the toolbar and highlight Results Entry from the pull down menu.
- 4.41 Choose Cross Reference search.
- 4.42 Choose Crypto as Template.
- 4.43 Click OK. (Proceed to 4.48)
- 4.44 If there is more than one Matrix Spike in the batch, add the test codes \$A_1623, \$S_1623, \$R_1623, 1623MAVS, 1623MASV, 1623MAPV, 1623MAIR, 1623MAVT, 1623MAFV, and 1623MANF by right clicking on the grey boxes under the sample number.
- 4.45 "Do you wish to add this test code" box will appear. Click yes. Repeat for each additional matrix spike.

- 4.46 Using the EC bench sheet enter the Result, Analysis Start Date, Analysis Start Time and Analyst Initials for EC1623 or ECOL (E. Coli).
Note: For results of <1 enter ND for Not Detected.
Note: EC1623 is used for SM9223 Colilert, and ECOL is used for SM9221 Multiple Tubes Method.
- 4.47 Using the 1623 Bench sheet enter the Result and the initials of the person entering the results for the following test codes. Note: The Start Date and Start Time will remain the same as that used in EC1623.
1623ST= Sample type enter "F" for Field or "M" for Matrix Spike.
1623TU= Sample turbidity. Enter exactly as written by the collector
1623SV= Sample Volume filtered.
- 4.48 Using the 1623 Bench sheet enter the result and the Analyst initials for the following test codes. Note: The Start Date and Start Time will remain the same as that used in EC1623.
1623PV= Pellet volume. If <0.1 enter "Not Detected."
1623IR= Initial Resuspended Volume
1623VT= Volume transferred.
1623FV= was 100% of the sample used. Enter "Y" or "N".
1623NF= Number of filters used in sample.
- 4.49 Using the 1623 Bench sheet enter the Result and the Microscopist for the following test codes. Note: The Start Date and Start Time will remain the same as that used in EC1623.
1623OS=Number of Cryptosporidium and Giardia cysts found. If 0 enter 0. If 1 enter 1. Click "store results" and exit.
1623= Number of Cryptosporidium and Giardia cysts per liter of sample filtered. If 0 enter ND, if 1 was found in 10 liters enter 0.1. Click "store results "and exit.
VAL_1623 is reserved for the Supervisor. Leave it blank.
- 4.50 Results Entry Matrix Spikes
- 4.51 Using the 1623 Matrix Spike Bench sheet enter the Result and the Analyst initials for the following test codes.
1623MAVS= Matrix Spike Volume Spiked. Refer to the matrix spike bench sheet and use the date and time the matrix spike was spiked.

1623MASV= Matrix Spike Sample Volume filtered. Use the filtration start date and time for this and the remaining test codes dealing with the matrix spike.

1623MAPV= Matrix Spike Pellet volume. If <0.1 enter "Not Detected."

1623MAIR= Matrix Spike Initial Resuspended Volume

1623MAVT= Matrix Spike Volume transferred.

1623MAFV= was 100% of the sample used. Enter "Y" or "N".

1623MANF= Matrix Spike Number of filters used in sample.

\$A_1623= Matrix Spike Amount. Enter the number of oocysts used to spike the matrix. Refer to the matrix spike bench sheet and use the date and time the matrix spike was spiked.

\$R_1623= Matrix Spike Recovery. **Note: Do not enter anything.** The computer will place a calculation here. Change the date, time and initials to the \$S_1623 date time and initials.

\$S_1623= Matrix Spike Result. **Note: Once it is saved \$R_1623 will be calculated. \$S_1623 should have the date and time of the matrix spike filtration.**

4.52 Results for OPR and MB

4.53 Using the Method Blank bench sheet enter the following:

\$B_1623= Method Blank. Record as "ND". Enter the start date and time of filtration.

4.54 Using the OPR bench sheet enter the following:

\$LA1623= Spike amount for Lab Control Sample. Enter the amount spiked, the start date and the start time of spiking.

\$LR1623= Lab Control Sample Recovery. Do not enter any results. The computer will place a calculation there. Use the bench sheet to enter the date and time filtered.

\$LS1623= Lab Control Sample Result. Enter the number of oocysts found. Use the bench sheet to enter the date and time filtered.

4.55 When finished, click Save.

4.56 Exit.

4.57 Results Entry- PT samples.

4.58 Follow the procedure stated in 4.40 to 4.51 and 4.56.

4.59 Entering results on the QA/QC batch sheet

4.60 On batch sheet under the results column, enter the results from the bench sheet for Crypto and Giardia in their respective fields.

- 4.61 Write E. Coli results under the E. Coli column.
- 4.62 If there is a matrix spike strike through the E. coli results on Spike Amount, Recovery, and Spike Result. Transcribe the results as follows:
Spike Amount= Enter the \$A_1623 from LIMS (or organisms spiked on bench sheet).
Recovery= Enter the \$R_1623 from LIMS.
Spike Result= Enter the \$S_1623 from LIMS (or organisms detected on bench sheet).
- 4.63 If there is more than one matrix spike, write the sample number as well as Spike Amount, Recovery, and Spike Result for the sample. Enter the same as the first matrix spike.
- 4.64 Strike through the E. Coli result on \$B_1623, \$LA1623, \$LR1623 and \$LS1623. Transcribe the results as follows:
Blank= \$B_1623 from LIMS.
\$LA1623= \$LA1623 from LIMS (or organisms spiked on bench sheet).
\$LR1623= \$LR1623 from LIMS.
\$LS1623= \$LS1623 from LIMS (or organisms detected on bench sheet).
- 4.65 Sign and date each batch sheet, staple together if more than one. Batch sheets are placed on top of the bench sheet packet.